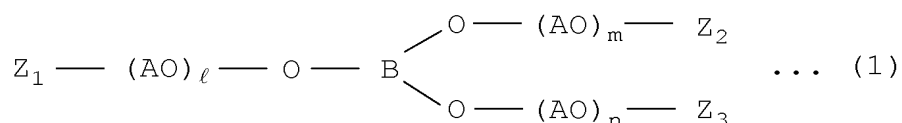


AMENDMENTS TO THE CLAIMS:

The following listing of claims replaces all prior listings, and all prior versions, of claims in the application.

LISTING OF CLAIMS:

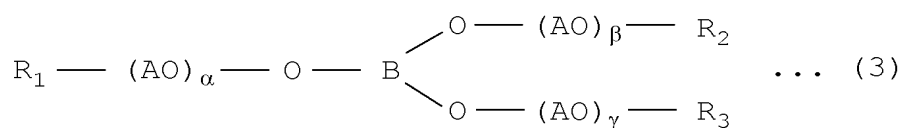
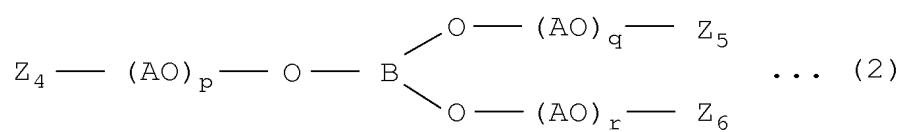
1. (Currently amended) A lithium secondary battery having a positive electrode and a negative electrode which reversibly intercalate and deintercalate lithium and an electrolyte containing an ion conductive material and an electrolytic salt, where said ion conductive material contains a boron-containing compound represented by the following formula (1):



wherein B represents a boron atom; Z_1 , Z_2 and Z_3 each represent an organic group having an acryloyl group or a methacryloyl group or a hydrocarbon group of 1-10 carbon atoms, with the proviso that one or two of Z_1 , Z_2 and Z_3 are the organic groups having an acryloyl group or a methacryloyl group; AO represents an oxyalkylene group of 1-6 carbon atoms and comprises one or two or more of the oxyalkylene groups; and ℓ , m and n each represent an average degree of polymerization of the oxyalkylene group and is 1 or more ~~than 0~~ and less than 4, provided that $\ell+m+n$ is 3 ~~4~~ or more.

2. (Original) A lithium secondary battery according to claim 1, wherein the electrolyte contains a polymer obtained by polymerizing the boron-containing compound represented by the formula (1).

3. (Previously presented) A lithium secondary battery having a positive electrode and a negative electrode which reversibly intercalate and deintercalate lithium and an electrolyte containing an ion conductive material and an electrolytic salt, where the ion conductive material comprises a polymerizable composition which contains a boron-containing compound represented by the following formula (2) and a boron-containing compound represented by the following formula (3):



wherein B represents a boron atom; Z_4 , Z_5 and Z_6 each represent an organic group having an acryloyl group or a methacryloyl group or a hydrocarbon group of 1-10 carbon atoms, with the proviso that at least one of Z_4 , Z_5 and Z_6 is said organic group having an acryloyl group or a methacryloyl group; R_1 , R_2 and R_3 each represent a hydrocarbon group of 1-10 carbon atoms; AO represents an oxyalkylene group of 1-6 carbon atoms and comprises one or two or more of the oxyalkylene groups; and p, q, r, α , β and γ each represent an average degree of polymerization of the oxyalkylene group and is more than 0 and less than 4, provided that each of the sum $p+q+r$ and the sum $\alpha+\beta+\gamma$ is 1 or more.

4. (Previously presented) A lithium secondary battery according to claim 3, wherein the molar ratio of the compound of the formula (2) and the compound of the formula (3) [(molar number of the compound of the formula (3))/(molar number of the compound of the formula (2))] is 0.1 to 9.

5. (Original) A lithium secondary battery according to claim 3, wherein the electrolyte contains a polymer obtained by polymerizing the polymerizable composition.
6. (Original) A lithium secondary battery according to claim 4, wherein the electrolyte contains a polymer obtained by polymerizing the polymerizable composition.
7. (Original) A lithium secondary battery according to claim 1, wherein the electrolytic salt is at least one of LiPF_6 , $\text{LiN}(\text{CF}_3 \text{ SO}_2)_2$, LiClO_4 , LiBF_4 , LiAsF_6 , LiI , LiBr , LiSCN , $\text{Li}_2\text{B}_{10}\text{Cl}_{10}$ and LiCF_3CO_2 .
8. (Original) A lithium secondary battery according to claim 2, wherein the electrolytic salt is at least one of LiPF_6 , $\text{LiN}(\text{CF}_3 \text{ SO}_2)_2$, LiClO_4 , LiBF_4 , LiAsF_6 , LiI , LiBr , LiSCN , $\text{Li}_2\text{B}_{10}\text{Cl}_{10}$ and LiCF_3CO_2 .
9. (Original) A lithium secondary battery according to claim 3, wherein the electrolytic salt is at least one of LiPF_6 , $\text{LiN}(\text{CF}_3 \text{ SO}_2)_2$, LiClO_4 , LiBF_4 , LiAsF_6 , LiI , LiBr , LiSCN , $\text{Li}_2\text{B}_{10}\text{Cl}_{10}$ and LiCF_3CO_2 .
10. (Original) A lithium secondary battery according to claim 4, wherein the electrolytic salt is at least one of LiPF_6 , $\text{LiN}(\text{CF}_3 \text{ SO}_2)_2$, LiClO_4 , LiBF_4 , LiAsF_6 , LiI , LiBr , LiSCN , $\text{Li}_2\text{B}_{10}\text{Cl}_{10}$ and LiCF_3CO_2 .
11. (Previously presented) A lithium secondary battery according to claim 1, wherein the boron-containing compound represented by the formula (1) has a molecular weight of 300-1000.

12. (Previously presented) A lithium secondary battery according to claim 1, wherein the number of carbon atoms in A0 is 1-4.

13. (Currently amended) A lithium secondary battery according to claim 1, wherein each of ℓ , m and n is 1-3, and $\ell + m + n$ is 3-9.

14. (Previously presented) A lithium secondary battery according to claim 1, wherein the boron-containing compound represented by the formula (1) has a molecular weight of 500-800.

15. (Previously presented) A lithium secondary battery according to claim 3, wherein each of the compounds represented by the formula (2) and by the formula (3) has a molecular weight of 300-1000.

16. (Previously presented) A lithium secondary battery according to claim 3, wherein each of the compounds represented by the formula (2) and by the formula (3) has a molecular weight of 500-800.

17. (Previously presented) A lithium secondary battery according to claim 3, wherein the number of carbon atoms in A0 is 1-4.

18. (Previously presented) A lithium secondary battery according to claim 3, wherein all of Z₄, Z₅ and Z₆ are organic groups having an acryloyl group or a methacryloyl group.

19. (Previously presented) A lithium secondary battery according to claim 3, wherein p, q, r, α , β and γ are 1-3; and $p+q+r$ and $\alpha+\beta+\gamma$ are 3-9.

20. (Previously presented) A lithium secondary battery according to claim 4, wherein said molar ratio is 0.5 to 4.

21. (Previously presented) A lithium secondary battery according to claim 20, wherein said molar ratio is 1-2.5.